



### ATTACHMENT 3

Items that should be considered in developing the Type Selection Memo.

#### DESIGN ISSUES

- Project Description**
  - EA and CO-RTE-KP
  - Structure Names and Numbers
  - Vicinity Map
  - Purpose
  - General Plans for all structures and alternatives
  - Project Engineer and Architect
- Project Schedule**
  - Design Hours for each structure
  - Structures P&Q and PS&E date
  - Critical dates for other functional units
  - Ability to meet schedule
  - Missing Design Data
- Previous Advanced Planning Studies**
- Design Alternatives**
  - List Alternatives Considered
  - Structure Depth
  - Span Arrangements
  - Material Alternatives
  - Construction Alternatives
  - Describe Pros and Cons
- Physical Constraints**
  - Horizontal Clearance
  - Vertical Clearance
- Loads**
  - Special Loading Requirements
  - Construction Overloads
- Adjacent Structures**
  - Clearances
  - Transition to other structures
- Existing Bridge**
  - Removal/Replacement
  - Strengthening
  - Widening Methods
- Future Widening**
  - Superstructure
  - Lower Roadway
  - Impacts on Current Project
- Frame Layout**
  - Hinge Locations
  - Selection Process
- Abutment**
  - Embankment Slopes
  - Seat, diaphragm, bin, strutted, rigid frame
  - Embankment surcharge and settlement
  - Approach Slabs
  - Slope Protection
  - Skew

- Bent/Pier Wall Types**
  - Number of Column/Bent
  - Drop Cap/Integral Cap
  - Column Fixity
  - Superstructure Fixity
  - Outrigger/C Bents
  - Skew
- Railing and Barriers**
  - Type
  - Rail Replacement Requirements
- Corrosion Issues**
- Signs and Lighting**
- Joints Seals**
- Deck Surfacing**
- Sidewalks/Medians**
- Hinge Access**
- Bearing Systems**
- Deck Drainage**
  - Design Rainfall Intensity
  - Inlet/Piping/Outlet Locations
  - Access openings
- Retaining Walls and Soundwalls**
  - Construction Materials
  - Special Design Required
- Utilities**
  - Type and location of utilities carried by structure
  - Future Utility Opening requirements
  - Interfering Underground and Overhead Utilities
  - Soffit openings
- Permits and Agreements Required**
- Railroad Requirements**
- Structure Type Recommendations**

#### DISTRICT ISSUES

- Presentations required for Outside Agencies**
- Commitments to outside Agencies**
- Environmental Constraints**
  - EIR Requirements
  - Protected species
  - Mitigation measures
  - Monitoring requirements
  - Construction Windows
  - Hazardous Waste

#### AESTHETICS ISSUES

- Requirements of EIR, District or other Agencies**
- Sketches of architectural treatment**

#### FOUNDATION ISSUES

- Preliminary Report**
- Groundwater**
- Soil Profile**
- Foundation and Pile Types**

#### SEISMIC ISSUES

- Seismic Performance Criteria**
- Seismic Analysis Methods**
- Fault Magnitude and Distance from structure**
- PGA & ARS**
- Liquefaction Potential and Design methods**
- Retrofit requirements**
- Isolation Systems**
- Critical Seismic Issues**
- Peer Review Requirements**
- Proposed New Criteria**

#### MAINTENANCE ISSUES

- Utilities**
- Widenability of existing bridges**
- Repair/Rehabilitation**
  - Deck Condition
  - Deck Seals
  - Joint Seals
  - Bearing Systems
- Hydraulics/Hydrology**
  - Final Hydraulic Report
  - Recommendations
  - Waterway Area requirements
  - Scour depths and protection
  - Bank Protection
  - Construction Methods in Waterway
  - Pier Shapes, location and skew
- Special Railing Requirements**

#### CONSTRUCTION ISSUES

- Constructibility**
- Stage Construction**
- Storage Facilities**
- Construction Sequence Access**
- Falsework**
  - Temporary Vertical Clearances
  - Temporary Opening Widths
  - Temporary Support Locations
- Traffic Control Issues**
  - Detours
  - Lane Reductions and Closures
  - Column/Footing Construction Requirements
  - K-Rail and Crash Cushions
  - Stage Construction